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AMERICAN
RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, FINANCE,

INSURANCE, BANKING, MINING, MANUFACTURES.

HENRY V. POOR, *Editor.*

SATURDAY, OCTOBER 1, 1859.

Second Quarto Series, Vol. XV., No. 40.—Whole No. 1,224, Vol. XXXII.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO. NO. 9 SPRUCE ST.

New York, Saturday, October 1, 1859.

The Gauge of Russian Railways.—The Arguments of Col. Whistler in Reference thereto.

We present herewith the Report of Col. Geo. W. WHISTLER, formerly engineer in chief of the St. Petersburg and Moscow railroad, in reference to the best gauge to be adopted for that great work. The matter was referred to him for a report, and he recommended a gauge of five feet. His report was not agreed to by the Commission of Russian Engineers to whom it was sent, who recommended instead, a gauge of six feet. Col. Whistler rejoined, and the result was the final adoption of his recommendation. We publish these reports for the first time. They are interesting as matters of history as well as for the arguments presented upon a question which has so long divided the engineering profession.

To His Excellency, the Count KLEONMICHEL, Aide-Camp General, etc., etc., etc.

ST. PETERSBURG, Sept. 9, 1842.

As it is important that the question of width, or gauge of track, and the form and weight of the iron rails to be used on the St. Petersburg and Moscow railroad, should be determined as soon as possible, I beg leave to submit the following remarks and recommendations.

The gauge of the track of almost all the railroads in Europe and America, with some few exceptions, is uniform, and 4 feet 8½ inches; and however arbitrarily these particular dimensions may have been fixed upon originally, experience, I believe, has shown no sufficient cause for any material change. Having been adopted on the earliest roads in England, its precise dimension continued from the necessary connections in the extension of the system, and I believe the question of altering it, was not made until a very material increase in width was adopted in the construction of the Great Western railroad in that country, since when it has frequently been the subject of investigation and discussion. All have agreed the original gauge of 4 feet 8½ inches is narrow enough; the question has therefore been confined entirely to an increase, and the advantage to be derived from this increase is generally stated to be an increased speed beyond that heretofore acquired on roads of the ordinary gauge; and this is to be attained:

1st. By the mechanical advantages or diminution of friction, by increasing the diameter of the wheels which may be done.

2d. Greater stability to the carriages on the track, and consequently greater steadiness of motion, and

3d. By increased facilities for the adoption of large and more powerful engines, necessary for the anticipated increased speed.

In relation to this anticipated increased speed, the experiments instituted to aid in the investigation of this question, and reported upon by Mr. Nicholas Wood, an eminent English Engineer, clearly show, that any such extraordinary speed is acquired only by a very great sacrifice of power; and it seems to me, there can be little doubt, that the rapid increase of resistance with the increase of speed must lead to the conclusion, that it is not advisable to attempt an extreme rate of speed, and in my opinion 30 to 35 miles an hour may be considered as the limit of practical speed for passenger trains, with due consideration to economy, and a proper accommodation of the public.

This rate of speed is attained on the roads of the ordinary gauge with the same facility as on

those of wider gauge, and may be increased if thought advisable.

In reference to the mechanical advantage to be obtained by increasing the diameter of the carriage wheels, it is true there will be a diminution of friction with the increase of the diameter of the wheels, but I have no reason to believe that raising the body of the carriage within the limits of a practical increase of the wheel, would effect the result; while on the other hand I do not think it would be advisable to increase beyond the ordinary practice for such a purpose, since the small advantage to be thus attained in the diminution of friction would be at the expense of heavier wheels and axles for equal strength; and in my opinion, increase of speed had better be acquired, if necessary, by an expenditure of power as a greater means of security against accidents; for large wheels cannot be made as strong as small ones.

In relation to the greater stability of the carriages on the wider gauge, and consequent increased steadiness of motion, this is so dependent upon the construction of the carriages themselves, and the manner in which they may be connected together in the trains, that I cannot see what effect the gauge, (within practical limits), can possibly have upon it. The experiments on this head have not shown any advantages of the wider, over the ordinary gauge.

In relation to the last mentioned advantage, viz., the facilities for adopting larger and more powerful engines, I can only say, the result of my own experience and the opinion of all the builders with whom I have conversed, tend to show that an increased width of gauge is not necessary to this end, since engines may be and have been constructed for roads of the ordinary gauge, of the maximum weight and consequent power due to the capacity, (strength,) of any rails now in use, and to increase the engine's power beyond this, would involve the necessity of an increase in the weight of the rail which I believe to be unnecessary in this case, as I have no doubt engines may be constructed for the ordinary gauge, of sufficient power to draw the maximum, practically, manageable trains.

The objections to a material increase in the gauge beyond that in general use, are:

1st. That the necessarily increased weight of the carriages, consequent upon increased length of axles, which must also be increased in diameter to preserve equal strength, not only increases the cost, but the proportion of weight of cars to goods carried, which upon a road like that between St. Petersburg and Moscow, intended as it is for the transportation of large quantities of goods, should be avoided as much as possible.

2d. A material increase of gauge involves an increased cost in the formation of an increased width of road-bed, the precise amount of which I am not at present prepared to say, but it is evident that in a line of such extent as this, it must be very considerable.

These are the principal disadvantages of an increased gauge, as immediately applicable to the St. Petersburg and Moscow railroad, and I think it must be admitted that they are not met by any equivalent advantages; I would, therefore, recommend that 5 feet be adopted as the width or gauge of the track. I have adopted the additional three and a-half inches, because it is not necessary in this case to adhere to the precise dimension of 4 feet 8½ inches, for the purpose of connecting with other roads of that gauge, and because it is too small an increase to affect materially the important question of cost; and will be available for convenience in the construction of engines.

THE FORM AND WEIGHT OF IRON RAILS.

It will be unnecessary here to repeat all that has been said on the various forms and weights of rails. The question has always been one of great importance, and early became the subject of scientific investigation, from which the general form for maximum strength has been deduced, and confirmed by experience, and generally adopted with such modifications, as the peculiar mode of fastening seemed to require. This form for maximum strength is that given to what is usually called the T rail.

In the management of the exact form of the section of this rail, there are practical courses governing the distribution of the metal, in addition to the more important one of maximum strength; one of these is, that whatever the general form or weight of the rail, the "head," or upper bearing part, should have some certain dimensions and weight with reference to the wheels moving over it,—aside from its duty as a part of the rail for supporting the weight. Another is the peculiar form to be given to the bottom web, with reference to its steadiness in the chair, or the mode that may be adopted for its fastenings.

In England and in Europe generally, the rails are secured by means of cast iron chains, fastened to stone blocks or wooden sleepers at each bearing point, and, for this purpose, the bottom web is made not over 1½ to 2 inches wide, and rests in the chair secured by iron or wooden keys.

In America generally the rails rest on the stone block or wooden sleepers, without the intervention of cast iron chairs except at the end of each rail, where the better to secure the relative position of the end of the two rails, they are made to rest on a cast iron platform, the whole being secured to the sleepers by iron spikes. For this purpose the bottom web of the rail is extended in width sufficiently to give a firm bearing on the sleeper, without the aid of a chair, by which means the weight of the chair is applied to give strength to the

rail. The result of my own experience, and the opinion generally among engineers where this mode has been used, has led me to the conclusion, that this form of rail called in America the H rail, and mode of fastening, gives at least equal, if not greater stability; greater simplicity and economy than any other. I would, therefore, recommend that this form be adopted. In relation to the weight of the rail as this is a question of strength, and has been the subject of direct experiment, it is dependent (within certain practical limits) upon the length of bearing or distance between the supports, and the weight upon any one pair of wheels to pass over it; the practical limits for the distance between the bearings, is assumed to be between three and five feet, and the question then is between the economy of an increased weight of iron in the rails for a long bearing, or an increased number of supports for the shorter, and I have decided as the case is similar to America, that the wooden sleepers will be cheaper than the iron rails, and as the weight upon any one pair of wheels to pass over the rails need not exceed eight tons, I would recommend that the weight of the rail be established at sixty pounds to the yard, to be supported at intervals of every three feet.

Which is respectfully submitted

By Your Excellency's

Most Obt Serv't

G. W. W.

REPORT OF THE RUSSIAN COMMISSION ON THE MOST ADVANTAGEOUS WIDTH FOR THE ST. PETERSBURG & MOSCOW RAILROAD.

The determination of the most advantageous width, or inside measurement of space between the two rails, for the St. Petersburg and Moscow railroad forms a question of the greatest importance, not only for this particular line, but for all Russia; for in the course of time there will doubtless be many other railroads converging towards Moscow, to which it will be necessary to give, for the sake of continuity, the same dimensions, so that whatever width be adopted for the Moscow railroad, will become in a manner the model for all the rest of the empire.

This question deserves also a peculiarly careful investigation, inasmuch as it has not been hitherto maturely considered owing to the rapid development of this mode of conveyance within little more than ten years.

In the first railways in England, the *tram* roads of the mining and coal districts, were taken as models, their gauge being 4 feet 8½ inches. These dimensions, owing to the novelty of the operations and the rapidity with which the railroads were constructed, were inconsiderately adopted, and passed from one to another, until they became so general, that for the preservation of uniformity, they were made compulsory by an especial act of Parliament. Soon, however, experience proved the inconvenience of this limitation, and in the year 1836, the act was repealed and the width of the lines left to the discretion of the constructors. But by this time a great part of the principal chain of roads in the centre of England, was already constructed, and all the branches which were subsequently connected with these lines, were compelled of necessity to adopt the same dimensions; on the other hand, where the constructors were not tied down to this peculiar

measure, they adopted a greater width of gauge. On the Eastern Counties line, 5 feet were adopted. On several of the Scottish roads, 5½ feet; in Ireland 6 feet and 2 inches; and on the road from London to Bristol and Exeter, 7 feet.

In Belgium and those parts of Germany where railroads were early introduced, the English dimensions of 4 feet 8½ inches, were by imitation adopted, and thus was introduced the necessity of adhering for the sake of uniformity to this inadequate width; but when the construction of railroads was introduced later, a wider gauge was chosen, as for instance by the governments of Baden and Darmstadt, which adopted 5 feet 3 inches English measure.

The above examples are sufficient to show by experience, that there was an inclination to widen the lines, and if this widening of the lines had not been universally adopted, it may be attributed to the desire of the constructors, particularly those acting for private companies, to diminish the original cost, even at the expense of future utility. On the contrary, where the projectors were unshackled, they have chosen the wider dimensions. The best example of this, is the report of the committee appointed by the English government to suggest a chain of railroads in Ireland. The members having executed their task with the greatest care and precision, declare, among other matters in their report to the Queen, that having collected the opinions of the most celebrated Engineers, and given them the most mature consideration, they had come to the conclusion that the most advantageous width for a railroad was 6 feet 2 inches.

This dimension is nearly the same as that recommended in the latest theory of the construction of railroads as taught in the London University, by one of the most celebrated English Engineers in this department, Professor Vignoles; and in the works of the celebrated Tredgold, who several years ago advised the adoption of a six foot gauge on roads where rapid conveyance was necessary. It is somewhat remarkable, however, that the advice of Tredgold, a man highly respected by the Engineers of England, should have remained unnoticed. The reason of this neglect may be the above-mentioned circumstance of the rapid spread of railroads, which left the engineers scarcely time to construct, and no leisure to investigate how far the originally chosen width was adapted to the new and continually improving application of steam to the purposes of locomotion. Thus, for the most part, in the prospects of railroads executed up to the present time, but little attention was bestowed on the subject of width; and in general, the original dimension of 4 feet 8½ inches was considered sufficient until the manufacturers of locomotives began to urge the necessity of a wider space, and in some few instances, as it were in compliance with their wishes, a small deviation from the established limits, was made by extending the width to 5 feet; and yet the following reasons may be urged why a preference may be given to a line 6 feet, in width instead of 5 feet.

1st. The extension of the road one foot in width, without incurring danger, allows the diameter of the wheels to be enlarged, thereby lessening the friction, and resistance in the same

proportion; for on railroads, all other circumstances being equal, this resistance decreases in the reverse ratio of the increase of the diameter of the wheels. Thus, for example, if one and the same wagon be attached first with wheels, 2 feet and a-half in diameter, and then with wheels, 3 feet in diameter; in the former instance it will be propelled by 1-5th greater force than is necessary in the latter.

2d. With the extension of the road in width, the size of the wagons is proportionally enlarged, thereby affording greater convenience for placing the luggage, and the conveyance of a greater quantity of goods in proportion to the dead weight of the empty wagons.

3d. By extending the road to 6 feet, the steadiness of the wagons and locomotives is sensibly increased; and in the same proportion, the undulatory motion, alike destructive of the road and equipages diminished, causing a saving in the expense of repairs, and removal; and what is still more important, a great increase of security—for up to the present time there has not been a single instance of the wheels getting off the track on the Poolousky 6 feet road, while accidents of this nature are by no means of unfrequent occurrence on narrower lines.

4th. The unavoidably frequent derangement of the upper surface of the embankment from the rapid changes of the atmosphere in spring and autumn, will sometimes cause the rails to diverge from their true horizontal position, but on a wider line the divergence will be less sensibly felt.

5th. The extension of the road one foot in width will afford increased room for the mechanism of the locomotive, allow it to be kept in a better state, and the more important parts thereof to be enlarged, thereby attaining increased force and diminished expenditure. Thus, for instance, the enlarged dimensions of the boiler, and the greater surface exposed to the heat, will furnish according to the calculations of railway engineers, a saving of 13 per cent. in the fuel of the engine, on a line 6 feet wide over a line 5 feet in width; and this alone would form for the Moscow railroad according to the proposed estimate, an item of 75,000 Roubles silver, annually, being equivalent to a capital of a million and a-half of Rouble silver.

6th. And finally. In addition to the above enumerated advantages which a 6 feet line has over one only 5 feet in width, we must take into consideration the prospect of its simplicity at a future period, wherein it is impossible not to foresee a great improvement, when we consider that scarce 13 years have passed since the first application of steam as a means of locomotion on land, and that the power and utility of these machines have during this time increased tenfold. Such augmentation of power is the more important for the Moscow road on account of its great extent, the desideratum being cheap, as it secures rapidity, and the application, without loss, of the moving force, to the conveyance of the great mass of goods that may be expected to be transported from one Capital to the other.

Having thus stated the advantages of a 6 feet line over one only 5 feet in width, we will now examine into the disadvantages inseparable from such enlargement. For the Moscow railroad they are confined to the following—the increased diffi-

culty of clearing away the snow, and the additional expenditure of construction. The mass of snow to be cleared away during the winter journeys, will certainly be a whole foot wider for each of the tracks, but this difficulty can only be sensibly felt on occasions of snow storms which seldom occur; but which as the engines will be larger and more powerful on the 6 feet line; so the proportionate increase of labor cannot present any great difficulty; and in every case this cannot be considered as an essential objection. We pass therefore to the second objection: the increase of the original cost of construction attendant on a wider line. But here also the difference is less than might be expected. A separately subjoined calculation, in which the most liberal allowance is intentionally made, shows that the difference between the cost of construction of a 5 feet, and a 6 feet line, would amount to one million one hundred thousand roubles silver, or less than three per cent. on the whole amount of the sum calculated as necessary for the construction of the railroad to Moscow, and this difference would be made up by the annual savings to be effected as above stated, and of which, the article of fuel alone, would be equivalent to a capital of 1,500,000 roubles silver.

Regarding the St. Petersburg and Moscow railroad with all the interest and circumspection that so great an undertaking of the State demands, can we allow the adoption of a 5 feet line, which would incur not only the sacrifice of various present advantages, and in some measure, also of security; but even shackle the future extension and spread of such roads, and all this only for the sake of a temporary saving, that may be more than compensated by the future annual economy?

The majority of the Commission cannot, therefore, acknowledge the propriety of this, but, on the other hand, considering that the line of 7 feet width, introduced in one of the principal railroads in England, (The Great Western,) has proved too wide, while a width of six feet has been shown by experience, both here and in foreign countries, to be perfectly satisfactory.

It is, therefore, proposed for the St. Petersburg and Moscow Railroad, 6 feet English or Russian measure, should be adopted as the width or distance between one rail and the other.

Signed	General DESTREM, " GODMAN, " TCHIFFKIN, " RAKASOPPSKY, " DAVATHAN, Count BOBLINSKY, Director FISCHER, Colonel KRAFFT.
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Col. MILNIKOFF, of the Commission, did not sign.

COUNTER REPORT OF COL. WHISTLER.

To His Excellency, the Count KLEINONMICHEL, Aide-de-Camp General, &c., &c., &c.

ST. PETERSBURG, Oct. 31st, 1842.

I have read with much care and attention, the paper "On the Most Advantageous Width of the St. Petersburg and Moscow Railroad," submitted by the majority of the Technical Commission at their meeting of the 10th inst., and am constrained to acknowledge my inability to comprehend and appreciate, as they do, the advantages of six feet over five for the width of gauge. I have felt a desire to agree in opinion with the majority of the Commission on this question, for I must naturally doubt the correctness of my own judgment

when differing with so many gentlemen of high-standing and professional reputation, but I have sought in vain for the conviction that I am wrong.

I agree entirely with the majority of the Commission that the determination of the most advantageons width of the St. Petersburg and Moscow railroad forms a question of the greatest importance, and I should feel the responsibility of differing with these gentlemen very great if my opinion were to have weight, were it not that I do not believe the decision of this question, limited as it now seems to be, to a choice between five and six feet, involves so seriously the utility and ultimate interests of this road and the railroad system in Russia. In other words, while I admit the importance of the most advantageons width, I cannot attach such serious consequences to the choice between five and six feet as they do; for while I remain firm in the belief that five feet will answer every possible purpose for which the railroad can be desired, I know of no other material disadvantage that can arise from the adoption of six feet, than the extra costs attending it. These extra costs, however, I fully believe to be unnecessary, not only as effects this road, but as far as this road may become the standard for others, is an unnecessary cost entailed upon all others to be constructed hereafter.

After stating the great importance of this subject, the paper proceeds to say: "This question deserves a peculiarly careful investigation, inasmuch as it has not heretofore been maturely considered, owing to the sudden impulse given to the development of this mode of conveyance within little more than ten years." Yet it would seem to me that one of the strongest reasons operating upon the minds of the Commission in favor of the six foot track, is a belief that there exists at present, as the result of investigation and experience, the width of track elsewhere, citing, as instances, the report on the investigation of the Irish Railroad Committee, as recommending six feet two inches; the "Eastern Counties" Railroad as having adopted, (what I recommend here,) five feet; some Scotch railroads, 5 feet 6 inches; the Great Western Railroad, 7 feet; and the railways of Baden and Darmstadt, 5 feet 3 inches; and attributing the adherence to the narrow gauge, to the desire of the constructors, especially those acting for private companies, to diminish the original cost, even at the expense of future utility; and again that the adhering to the original width of 4 feet 8½ inches to so great an extent, may be attributed to the want of leisure on the part of the Engineers to investigate this subject.

Now it would seem to me that the well known liberal expenditures in the first cost of about all the railroads in England, even to the luxury of architectural display, could hardly justify the conclusion, that a desire to curtail the first cost would lead to the adoption of a narrow track at the expense of future utility. Nor can I believe it possible that the want of leisure on the part of the Engineers to investigate this question, can be a reason for their adhering so generally to the original gauge.

(To be continued.)

ILLINOIS CENTRAL RAILROAD.—LAND DEPARTMENT.

The receipts in the Land Department of the Illinois Central Company are increasing, \$16,000 up to the 25th against \$29,847.64 for August; and

New York and Erie Railroad.
To the Editor of the AM. RAILROAD JOURNAL.
3 Threadneedle Street, E. C.
London, 9th September, 1859.

SIR:—As the representatives of a large amount of New York and Erie Railroad Bonds of every class, but more especially of the 3d and subsequent mortgages, and of each of the unsecured classes, we have anxiously and carefully examined a plan of re-organization, said to emanate from the Board, proposing in substance:

To keep all the five mortgages on foot.

To make a new capital stock from the unsecured bonds at 80, and from the existing shares at 20.

To levy 10 per cent. cash on the new stock—producing \$858,400.

To raise \$830,000 by subscription in coupons of 4th and 5th mortgage bonds.

As much as 12 months indulgence, if needed, is asked for payment of 1st September coupons, on the 3d mortgage bonds (\$210,000.)

These levies would raise \$858,400 in cash immediately, \$830,000 gradually out of the first year's revenue, and the temporary use of \$210,000 for a few months.

We beg leave very briefly to express our objections to parts of this plan:

1st. We object, and we venture to say that every unsecured bondholder whom we represent will object, to the wanton and useless reduction of their bonds from 100 cents to 80 cents on the dollar, in converting it into a new stock. If 80 for bonds and 20 for shares be the just proportion, let the bonds come in at par, and the shares at 25. The proportional interest of each in the joint stock partnership will be precisely the same—unnecessary irritation of the bondholders will be avoided if their full nominal claims are recognized. The total capital in that footing will not be one cent more than the *bona fide* outlay and par value of the property; and, for our part, although we can see immense advantages in arranging for the permanent debt being as low as possible, we can see no advantage, nor have we ever heard the faintest suggestion of any, in cutting down the nominal value of the bonds, for the mere name of producing a small capital stock. If cutting down is a good thing in the abstract, if there is any charm or magic in it which will increase the amount of divisible earnings, pray let us know the reason why, and then we will consider it, and we will go for cutting down; but then we shall ask—Why do the thing so faint-heartedly, why not cut down to 8 for bonds and 2 for shares, (or to 4 and 1,) instead of 80 and 20? Meanwhile, till some reason for be suggested, we beg leave strongly to protest against the reduction of the nominal value of the bonds. You may say, if the substance is the same, "What's in a name?" We reply there may be a good deal in it when the name of the substance in one light is *honor*, and in the other *repudiation*, it concerns all parties to choose the former.

2d. We object to have the work done in a milk and water fashion. Let us have the arrears of mortgage coupons somehow at once disposed of, and punctual payment of interest on all the mortgages that continue on foot, (whether three, four, or five,) resumed immediately. If \$1,200,000 of cash be wanted, let it be levied at once in cash, (but we venture to think that Mr. Marsh will manage out of the revenue to reduce this want before

1st December.) A 10 per cent. levy will raise much more under our plan of converting the unsecured bonds at par instead of 80. There is no doubt that the bondholders and stockholders will consent to the conversion with promptitude and alacrity, if the plan be effective and complete at the commencement, for the clearer the start is, the sooner will there be a dividend, the more confidence will there be, and the better will be the price of all the securities of the company, from the highest to the lowest, and thereby the whole operation will be materially facilitated *in every way*.

3d. Inasmuch as all the claims for which money is required at present either take rank with, or priority over, the 4th mortgage bonds, (except a small sum for 5th mortgage coupons,) it will be nothing less than simple justice that the new money raised shall receive either 4th mortgage bonds at par, or whatever else the 4th mortgage bonds generally may (if at all) be turned into. It is repeatedly stated that about \$3,600,000 only of 4th mortgage bonds are issued, but in fact \$1,500,000 beyond that amount are issued by deposit, with power of sale, and but for the present movement, some or all of them might be forced to sale.

We very much fear, from the avowed prejudices of the 4th and 5th mortgage bondholders, and from the slow advance as yet made in the United States in the art of sound railway finance, that they (or at least the 4th) will insist on retaining their old or receiving a new mortgage security. If this were (beyond dispute) to their advantage, we should not suggest a word against it; but we have a lively appreciation of the excellent financial position the company would occupy. If the debt could be permanently reduced to \$13,000,000 (as far as liability to *repay capital* is concerned,) by the 4th and 5th mortgagees consenting to take Preference stock for their bonds, or even perpetual annuities, with a right to a Receiver in case of arrears, but no power of an absolute foreclosure. We only command this with the understanding that they shall be secured that no encumbrance beyond the \$13,000,000 shall ever take precedence over them without their own consent, and from the conviction that the immensely better financial position of the company in that case, would make their Preference stock or perpetual annuities command a better price than a low sounding and low ranking 4th and 5th mortgage bond, and would encourage the stockholders at all times, good or bad, to keep the road and property in good order, and to spend their means liberally upon, as all reasonable fear of foreclosure would be forever extinguished. We are, sir,

Your ob't serv'ts,

HESELTINE & POWELL.

In this connection, we copy the following article furnished by Mr. Powell to the London *Railway Times*:

To the Editor of the London *Railway Times*.

SIR:—I am glad you so clearly reported that the scheme which I propounded at the meeting on the 26th August, was only my own individual suggestion, and that the gentlemen who form the Committee are in no way committed to it, nor to any other scheme of re-organization; indeed, I feel at full liberty myself to modify it, or adopt another, without being chargeable with inconsistency.

I do not suppose, however, that I am likely to depart from the fundamental principles on which I framed that scheme, viz.—1st. That the relative

positions of the different classes of bondholders shall be regarded and preserved as far as can be done consistently with good practical working of the new scheme, whatever it may be. 2d. That no sponge shall be applied to any part of the company's debt. And 3d. That the scheme shall be as simple as possible, based on the existing relations of all parties concerned, and not a haphazard, wanton, unreasoning cutting down of various classes of bonds and shares into a new capital stock, for the useless purpose of producing an appearance of small capital.

With regard to the conversion of fourth mortgage bonds into a new Preference capital (secured by some means from having anything but the 1st, 2d, and 3d, put over its head without its own consent), I have nothing to urge in its favor but the strong reasons of financial soundness. I believe most sincerely, that when the financial framework of a company is sound and prudent, *all* the securities are the more esteemed by it; and that if the new scheme could be finally settled, so that a Preference share capital of five or six million dollars stand between the common shares and \$13,000,000 of debt (in the English fashion), *that Preference capital* will command a better price and be more esteemed than a parcel of low ranking and low sounding mortgage bonds would, if such should be decided on rather than Preference shares.

It is, however, a question which must be settled by the majority of the 4th mortgage bondholders; if they require that in the intended new combination, and its consequent purchase of the road under foreclosure by the machinery of their 4th mortgage, their bonds must be represented by a new set of bonds and mortgage, equivalent in position and priority to their present mortgage, there can be no doubt their wishes will be acceded to. I have no wish to take away one cent of their real advantages. The charge on the revenue will just be the same, and there can, at least, be no objection to such new mortgage being a long-dated one, so as to allow its gradual extinction by a sinking fund when the new company shall be in a position to command one for that special purpose. The figures and results will remain the same; and, with your permission, I will again state the outline of my scheme in a tabular form:

	Annual Interest at 7 pr. ct.
Mortgages	\$13,000,000 \$910,000
Preferred Stock:	
To be secured by a 4th mortgage, if necessary.	
From	
4th mort'ges. \$3,600,000	
5th " 1,000,000	
10 pr. ct. sub-sc'pt'n by unsec'u'd bond-holders and sh'r'h'drs on \$10,000,000 new share capital 1,000,000	
10 pr. ct. sub-sc'pt. by 5th mort. bond-holders 100,000— 5,700,000 399,000	
Common Stock:	
Uns'c'r'd bonds and arrears. 8,000,000	
30 per cent. on \$11,000,000, present Erie share capital* 3,800,000	
	\$11,000,000
Recusants ... 1,800,000— 10,000,000 700,000	
Total capital..... \$28,700,000 2,009,000	
Being 40 p. ct. net rec'ts on a gross take of \$5,022 500	
The average for 5 y'rs end'g Sept., 1858. 5,618,432	

* Each Erie share of 100 dollars will, on subscribing 3 dollars, receive 30 dollars in the new capital stock.

Statement showing the operations of the Boston and Worcester Railroad for the 10 years ending November 30, 1858.
Boston and Worcester Railroad.

1. TABLE showing the cost of construction and equipments, earnings, etc.

Statement showing the operations of the Boston and Worcester Railroad for the 10 years ending November 30, 1888.

4. TABLE showing the receipts, etc., per mile run, and the ratio of specific expenses.	
Years.	
1849.	152.58
1850.	171.88
1851.	159.46
1852.	158.47
1853.	170.80
1854.	172.67
1855.	186.14
1856.	196.74
1857.	190.53
1858.	185.27
Decrge....	1,743.49
	99.92
	74.43
	74.43
Total receipts p. mile run.	
Tot. expenses p. mile run.	
Total net re-cpts. p. mile run.	
Ratio of expedit's to tot. recpts.	
Repairs of road, etc.	
Repairs of roll'g stock.	
Cost of operat'g.	
Miscellan's expenses.	
Years.	
1849.	22.14
1850.	20.57
1851.	18.57
1852.	19.22
1853.	22.29
1854.	17.27
1855.	18.64
1856.	19.76
1857.	19.98
1858.	20.56
1859.	19.92
1860.	19.54
1861.	19.74
1862.	19.92
1863.	20.39
1864.	20.56
1865.	20.76
1866.	20.76
1867.	20.76
1868.	20.76
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1870.	20.76
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2016.	20.76
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2239.	20.76
2240.	20.76
2241.	20.76
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2247.	20.76
2248.	20.76
2249.	20.76
2250.	20.76
2251.	20.76
2252.	20.76
2253.	20.76
2254.	20.76
2255.	20.76
2256.	20.76
2257.	20.76
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2284.	20.76
2285.	20.76

restoring the road and its finances to a sound condition.

American Railroad Journal.

Saturday, October 1, 1859.

Another Canal Convention.

Another convention of canal forwarders was held at Utica on the 28th ult. Owing to the competition of the railroads, these men have been doing a losing business for some years past. They have in the meantime been busy at devising some mode for increasing the cost of transportation on the railroads as a means of increasing the rates of charges on the canal. They have, consequently, raised the cry of monopoly and corruption against the railroads, and of a design of breaking down, then buying up, the canals; and when this terrible achievement shall have been accomplished, the people are to be the next victims of these soulless corporations. The cry being a popular one, they have been seconded by a large number of needy politicians of equivocal standing, and who hope by means of this hobby to get again into places of trust and profit. Such are the motives and organization of the movement which has been set on foot.

We can tell this precious set that they are reckoning without their host. The *people* of the State have five dollars invested in our railroads to one in our canals. If there be a collision between the two, the people will be found where their interests are, and in the issue to be made, the former will find themselves as chaff before the latter.

Of all cries in the world, this against the railroads is the most senseless. It is as old as the race; or rather as old as anything like progress in ideas, or physics. All improvement necessarily supplants and destroys an inferior life, or organization. Those supplanted naturally complain; for long continuance in a certain track, or habit has rendered them imbecile and incapable of availing themselves of the *new*. Nothing is left for them but to give up the ghost. Hence the eternal warfare between the active and progressive spirit of mankind, and that which declares our highest and best achievements to have been realized in the past; and hence the contest between the canal forwarders and railroads. The railroad is an improvement upon the canal. It abridges labor in a greater degree, and throws a large number of persons on the canal out of employment. To regain it, they seek to supplant the better by the worse—to reverse the law of society and the universe—in other words to destroy, instead of building up. The same spirit would abolish the canal for the old turnpike, and the turnpike for the batteaux up the Mohawk and down the Oswego.

The day has gone by for all such nonsense. The *canal men* and their associates are simply making themselves ridiculous and wasting their time and money. New York will take no step backwards, but will hail with delight the triumph of the railway, just as it would hail with delight the discovery of some mode of transportation that would render railroads useless. We can no longer afford to maintain a process which the inventive genius of the age has rendered obsolete, Governor Hunt or Mr. Pittsugh to the contrary notwithstanding. These gentlemen will find it so, and will soon awake to a sense of mortifica-

tion at the ridiculousness of their positions, and will be heartily ashamed of the part they are playing.

New York and Erie Railroad—"Where Some of the Money Went Last Year—Or Rather, Where it Did Not Go."

To the Editor of the AM. RAILROAD JOURNAL:

I am much indebted to you for the editorial, under the above caption, in the JOURNAL of 10th inst., as by making at least some specific charge in regard to the management of the New York and Erie Railroad Company, you enable me to refute it. General charges of ignorance, incompetency and mismanagement are easily made, but, unless accompanied by the facts on which they are based, difficult to answer.

You are correct in stating that the eastward bound track on the Susquehanna Division was ballasted when constructed. The wording of that portion of the report on the condition of the road, which you comment on, is certainly improper, as it may be interpreted with a claim that this ballasting had been done during the year 1858. This was certainly not the intention of the writer of that report. All expenditures for ballasting are carried to *repairs of road-bed*, (not to repairs of track, as stated in your editorial.) Upon referring to the detailed account of the expenditures of the company, annexed to the report, it will be seen that the entire expenditures for repairs of road-bed, during the fiscal year, were only \$81,491. It must therefore be self-evident to any person who examines critically these expenditures, that no 85 miles of track were ballasted in 1858, since that alone would have cost more than double the entire expenditure on the road-bed during the year.

If you will be more specific as to the facts which lead you to repeat your "often expressed opinion, that the department for repairs of track was mismanaged on the Erie Railroad the past year, and a great deal of money wasted upon it," you will confer a particular favor on me, as it may enable me to refute the charge satisfactorily to your readers, if not to yourself.

Your obedient servant,

CHARLES MORAN.

New York, Sept. 14th, 1859.

It is proper to say that the above communication was received at our office at its date. Its publication, however, was delayed to the present time by the absence, at a distant point, of the Editor.

The language quoted is susceptible of but one construction—that given to it by us, as Mr. Moran admits. We cannot quite agree with him that the writer did not intend to convey the idea the language expresses. We entirely exculpate Mr. Moran from any such intention, or from any insinuation incompatible with entire integrity on his part.

The truth is, the report of the Assistant President is a most shambling, unintelligible, inconsistent, and discreditable thing of the kind ever penned, and shows the author to have been a very unfit man for his place. Mr. Moran received it as that of a subordinate officer, and adopted its conclusions. We do not pretend that he was a party to the misstatements it contains; but we think the public have right to complain at his inexperience which suffered himself to be so imposed upon. The Assistant President was, for a long time, Mr. Moran's paragon. He would not hear a word against him from any quarter. We think by this time Mr.

Moran and the public are pretty much of the same opinion as to his Assistant President's qualifications.

And now for another matter. Mr. Moran says he is glad we make direct *charges* instead of *insinuations*, and calls upon us for further specifications. Let us see what answer we have for him.

Before replying, we are entitled first to call on Mr. Moran to tell us how he expended the enormous sum of \$1,185,564 upon the track of the road the past year. He was Trustee for the owners of the road. To account fully for the expenditures made under his administration, was one of the duties belonging to his trust. The following is his amplification of this matter:

Repairs of road-bed, (including ballasting). \$81,491

" " track 888,347

Now for Mr. Moran to call on us to show that any portion of this vast sum of \$888,347 was *not* properly expended, is a pretty decided piece of impertinence. He had the vouchers, and could have told us how the money was expended had he chosen to do so. We cannot. Mr. Moran tells us next to nothing, and we have no access to the books and papers of the company. We see, however, that the amount expended upon the track is excessive, and far beyond the average cost of maintaining other roads. The conclusion we come to, therefore, is a logical and necessary one—that a portion of the immense sum charged to repairs of track was thrown away.

But we are not entirely without data on this matter. Let us see to what conclusion this will lead.

Mr. Moran expended on the track of the Erie Railroad the past year \$889,219 *exclusive* of iron; this expenditure is at the rate of 29.64 cents per mile run. On the best managed roads the average cost of maintenance of track, excluding rails, is about 15 cents per mile run—just about one-half the amount expended on the Erie Railroad the past year. The cost of maintaining track per mile run, the past year, on the roads quoted, was as follows: New York Central 15.91 cents. Boston and Worcester 15.90 " Western of Mass. 13.64 " Boston and Maine 18.07 " New York and Erie 29.64 ".

Now it is quite certain that, as far as the superstructure of the road is concerned, it was barely maintained the past year. The amount and cost of material used, is stated as follows:

5,055 tens of rails, costing \$126,408
406,583 ties, costing (as estimated by us) 27½ cents each 111,810
268,894 lbs. cast iron chairs, at 2½ cents per lb. 6,597
70,000 lbs. spikes, at 5 cents per lb. 3,500

\$248,315

The wear of rails will equal about 5 cents per mile run, which would make the depreciation for the past year, at least, \$150,000; the number of miles run being 3,000,000. The wear and tear of rails, consequently, was not made good.

There are about 2,300,000 ties on the road. Their average life will not exceed six years, so that this part of the track was only maintained. The number of chairs and spikes stated to have been used, could not have exceeded their annual wear.

From a careful examination of the Assistant President's report, we estimate the cost of the ballasting actually done, to be \$38,897. Taking

into account the above items, there would be left \$783,415 for *adjustment* of track, which is equal to \$1,500 per mile of road, and 24.44 per mile run, a sum fully equal to the cost of maintaining the track of this road, including iron, ties, ballasting, and all renewals to the superstructure.

In view, therefore, of the vast expenditures on the Erie railroad the past year, without any adequate visible results, we are fully justified in inferring that a considerable portion of the amount claimed to have been expended was lost in one way or another. Indeed we do not well see how it could have been otherwise. Mr. Moran was too much oppressed by his financial duties to give much time to the road, which was both inadequately and badly officered. It is here that Mr. Moran comes in for censure. He *ought* to have had a more competent and efficient staff. It was his fault that he did not. That he was devoted to the best interests of the road we have never doubted, but this devotion did not make his administration a successful one, for reasons already fully stated. But it is now one of the things of the past, and will soon be forgotten. If with this reply Mr. Moran is content to let the matter rest, we are.

New York, Providence and Boston R. R.

The receipts of the Stonington railroad for the fiscal year ending August 31, were:

Passengers	\$147,078 87
Freight	104,574 28
Mail service	5,089 24
Interest	1,298 85

\$258,041 19

Balance, Aug. 31, 1859

8,801 60

Total

\$266,842 79

The expenditures have been:

General expenses, salaries, wages, fuel, oil, etc.	\$83,331 93
Repairs of road, bridges, depots, engines, cars, etc.	44,872 62

\$128,204 55

New cars

\$5,054 20

New engine

7,455 55

Paid interest on bonds

20,065 50

Six per cent. bonds paid

2,100 00

Dividends, November, 1858, and July,

1859

73,262 10

Paid unclaimed dividends

175 00

Balance in cash

30,525 89

Total

\$266,842 79

The indebtedness of the company on the 31st of

August, 1859, was as follows:

Six per cent. bonds

\$312,000

Less amount held by the Co.

\$6,000 00

Am't due but not presented

400 00

6,400

305,600

The Directors were authorized to negotiate with

the New Haven, New London and Stonington

Railroad Company for the operations of the exten-

sion road of that company.

Cattawissa Railroad.

William D. Lewis, now Trustee of both the first and second mortgages of the Cattawissa Railroad, has been appointed Receiver, being selected as the most suitable person to take charge of the various interests of the company, having been for many years connected with the road, over which he presided for a long time.

Memphis and Charleston Railroad.

We have received a copy of the ninth annual report of the directors of this company to the stockholders, embracing the reports of the Superintendents of the eastern division, of the western division, and of the Chief Engineer, and Treasurers, each giving in detail the operations of the road, in their several departments, for the fiscal year ending June 30, 1858; also a general financial statement of the receipts and disbursements of the company from its organization to that date. The receipts from transportation, etc., during the year, were—

From Passengers.....	\$751,923 01
" Freight	509,991 66
" Mails	55,175 00
" Express	10,974 40
" Rents and privileges.....	2,748 33

\$1,330,812 40

Less road expenses, viz:	
Conducting transporta'n.....	\$147,863 57
Maintenance of way.....	171,263 99
" motive power. 179,901 04	
" cars	58,747 80

552,776 40

Leaving net receipts	\$778,036 00
Less int. on funded and floating debt. 195,838 10	

Leaving a surplus of.....	\$582,197 90
---------------------------	--------------

—equal to 12½ per cent. upon the entire cost of road and equipment, and everything incident thereto, amounting, as stated in the annexed balance sheet, to \$6,188,033 49. The operating expenses for the year were a fraction under 42 per cent. of the gross earnings.

Compared with the previous year, the gross earnings show an increase of..... \$866,401 75 And the expenses, an increase of..... 107,363 48

Being an increase in net earnings of..... \$259,038 27

The increase in the passenger department is \$159,419 51, or 27 per cent. In the freight department, \$172,795 97, or 51 per cent. Mail, express and other sources, \$84,185 77, or 98 per cent. The increase in the number of bales of cotton transported over the entire road is 72,204, or 59 per cent.

The total net earnings of the road from the commencement of operations to June 30, 1859, after changing off all interest and exchange on borrowed capital, have been \$1,264,611 86—equal to 56½ per cent. on the capital stock. This sum has been used in the construction and equipment of the road, entitling the stockholders to a dividend to that extent when the floating debt is paid.

The floating debt, on the 30th of June last, as given in the annexed statement, was..... \$443,616 01

Less cash and assets on hand

201,305 79

Excess of floating debt

\$242,310 22

To which add estimated prospective

liabilities for the current year

389,850 00

Making a total debt of

\$632,160 22

—to meet which the company have to rely upon the receipts of the road after paying expenses.

The board, however, felt assured that reliance may be placed upon the net earnings of the road for the current year, equaling at least those of the past, which will leave a surplus on the 30th of June next, of \$145,875 78—sufficient to pay a semi-annual dividend of 4 per cent. upon the original, as well as the increased stock, should the board decide to adopt the policy of declaring such

a dividend for the surplus earnings expended upon the road.

The following is a summary of the operations of the road for the year:

Total number of passengers	231,229
Equivalent to through passengers	72,665
Passengers carried one mile	18,798,075
Average distance traveled by each passenger—miles	82
Excess in number of passengers carried over the year 1858	7,734
Excess in passenger receipts over the year 1858	\$159,419 51
No. of passengers carried eastward	115,597
Total receipts from eastward pass'grs. \$378,523 46	
No. of passengers carried westward	115,602
Total receipts from westward pass'grs. \$378,399 56	
Difference in No. of passengers eastward and westward	35
Total receipts from through fr't east. \$44,019 19	
" " " " west. 57,714 28	
" " " " local freight east. 202,188 61	
" " " " west. 206,074 58	
Receipts per mile of road	4,636 98
Expenses " "	1,925 80
Repairs of roadway per mile	500 22
Miles run by passenger trains	252,397
" freight trains	231,335
" ballast and extra trains	78,309

Total miles run	562,041
Repairs of engines per mile run	6 5-10
Cost of wood per mile run	6 5-10
" oil, tallow and waste per mile run. 9-10	
" engineers and firemen	6 9-10
Aggregate cost per mile run	20 9-10
No. of bales cotton carried to Memphis	184,616
" " " Tuscum'a Ldg. 1,929	
" " " Stevenson	8,333

Total No. of bales carried on M. & C. R.R. 194,578	
Excess over last year	72,204

The company's property consists of 287 miles of road; 20 miles of sidings; 33 depot buildings; 2 machine shops and machinery; 5 engine houses; 30 water stations; 33 division houses; 4½ sections of woodland, besides real estate at depots; 36 locomotives; 27 first-class, 10 second-class, 15 baggage, 454 freight, and 108 construction cars.

CONDENSED BALANCE SHEET.

Dr.	Cr.
Capital stock	\$2,137,665 00
Forfeited stock	17,768 06
State of Tennessee	1,100,000 00
Company bonds	1,600,000 00
Bills payable	345,730 00
Individuals	77,881 47
Connecting roads	20,003 90
Profit and loss to June 30, 1858	664,645 40
Suspended tickets	475 79
Net receipts for past fiscal year	768,086 00
	\$6,842,206 26
	Cr.
Construction	\$5,126,954 23
Equipment	743,729 40
Incidental to construction	317,849 86
Interest on funded and floating debt for the past year	195,888 10
Stock in Miss. Central R. R., materials for road and other property	248,828 88
Cash and available assets on hand	209,505 79
	\$6,842,206 26

The officers of the company are:

SAMUEL TATE, President.

M. B. PRICHARD, Chief Engineer.

SAMUEL CRUSE, Treasurer Eastern Division.

WM. B. WALDRAN, Treasurer Western Division.

W. J. ROSS, Supt. Eastern Division.

B. ATREZ, Supt. Western Division.

Grand Trunk Railroad.

The following is the present equipment of the Grand Trunk Railway:

200	Locomotives.
183	Passenger cars.
52	Baggage and post office cars.
1,063	Covered freight cars.
1,068	Open platform cars.
216	Cattle cars, brake-vans and ballast wagons.
284	Snow ploughs.

In addition to the above, the company has contracted for 300 more freight cars, a portion of which are to be put upon the road immediately.

Judgment Against the City of Pittsburgh.

Execution has been issued in the case of Oelrich & Co., New York, against the City of Pittsburgh, on a judgment in the United States Court, for amount due upon coupons cut from bonds issued by the city to the Pittsburg and Steubenville and the Chartiers Valley Railroad Companies, and certain gas stocks owned by the city, levied upon.

Pittsburg, Fort Wayne and Chicago R. R.

The earnings of this road for the six months ending June 30, 1859, were:

From Passengers	.....	\$385,750 97
" Freight	.....	363,047 02
" Mails	.....	46,950 00
" Rent of road	.....	33,000 00
" Miscellaneous	.....	34,935 44
		\$80,689 43
And the expenses were:		
Conducting transp'tation	.....	\$125,984 83
Motive power	.....	218,782 17
Maintenance of way	.....	164,880 79
" " cars	.....	61,486 15
General expenses	.....	28,691 93
		599,825 87
Net earnings	.....	\$230,863 56

Less 6 months' interest on floating debt	.....	\$44,666 35
Discount on currency received by agents	.....	1,684 53
Commission allowed for services in funding coupons	.....	1,043 70
Six months' interest on funded debt	.....	312,126 50
		859,521 08
Amount	.....	\$128,657 52

Showing an excess of expenses and interest over the total earnings for the six months of

The earnings of the first six months of 1859, compared with the corresponding period of 1858, show the following increase:

From Passengers	.....	\$35,247 33
" Freight	.....	65,351 80
" U. S. Mails	.....	20,056 26
" Rents and Miscellaneous	.....	3,518 97
		\$124,174 86
The increase in expenses was:		
Conducting transp'tation	.....	\$23,209 11
Motive power	.....	76,323 34
Maintenance of way	.....	48,067 72
" " " cars	.....	16,299 76
		\$163,899 98
Less decrease in general expenses	.....	4,031 56
		159,868 37

Making the decrease in net earnings, \$35,694 01

This result is attributable to two causes: the large extraordinary repairs required on the track

machinery and rolling stock; and the small amount of business offered, with the consequent low rates charged for its transportation by competing lines.

The increase in the expenses of conducting transportation is no more than has been required by the increase in the service performed, by reason of the extension of the road to Chicago, and the larger number of trains run during part of the time.

The increase in the expenses of motive power appears large, but it will be remembered that in two of the largest items, viz: consumption of fuel and repairs of locomotives, the increase should be in proportion to the increased length of road which is about 22 per cent. The sum of \$60,315.47 has been expended in the repairs of locomotives, being an increase of \$12,683.55 over last year, the whole consisting of repairs of those connected with the passenger service.

A large amount of extraordinary repairs of machinery has been rendered necessary in consequence of its worn condition at the close of the past year. This, together with the fact that the department of motive power has been charged with the whole amount of fuel purchased during the six months (which has been large), while during the same period last year the consumption was only charged, will account for a large proportion of the increase in this account over and above that resulting from the extension of the line to Chicago.

The increase in the expenses of maintenance of way is not large, if the improvement in the physical condition of the road is taken into consideration. There has been expended during the half year for renewals in the track as follows, viz:

East. Div'n.	West. Div'n.	Total.
Chairs	.....	\$2,600 47
Cross-ties	.....	31,446 41
Frogs	.....	959 46
Iron rails	.....	28,145 71
		\$72,245 62

Totals	.....	\$63,152 05
		\$9,093 57

The same accounts last year amounted to \$34,407.67, showing a difference of \$37,887.94 in this class of expenditure, the greater part of which appears to have been made on the Eastern Division.

The increase in the expenses of maintenance of cars is less than the proportionate increase in the length of road; if the improved state of this part of the company's equipment is considered in making a comparison.

The other charges against the revenue for the six months have been \$22,855.18 on account of claims existing prior to January 1, 1859, of which \$10,877.18 were for expenses of transportation in 1857-8 not reported till after the close of the past year; \$9,110.35 for taxes accrued in 1858, not reported by the Solicitors; \$2,525.26 for interest due in 1858 on the bonds issued in 1859, for the funding of sundry coupons of the Fort Wayne and Chicago Railroad Company's Real Estate bonds, the arrangements for the issue of which were perfected since January 1st, ult.; and the balance, \$342.50, for sundry items of interest on stock and bonds accrued in 1858; also \$312,126.50 for six months interest on the funded debt; \$16,350.88 for interest on the floating debt and discount on currency, and \$1,043.70 for commissions allowed the Trustee for the Sinking Fund bonds, for services in funding coupons of old bonds. These charges, amounting to \$982,202.13, are in excess of the earnings for the six months \$151,512.70, from which, if there is deducted \$2,607.41, being amount of discount on the Sinking Fund bonds redeemed by the Trustee, the sum of \$148,905.28 will be shown as the apparent deficiency in the revenue for the half year. If to this deficiency is added the balance to the debit of Income Account at December 31, 1858, viz: \$138,689.95, the result gives \$287,595.16 as the amount of this balance to June 30, ult.

During the past six months the sum of \$589,208.01 has been added to the cost of the road, of which \$19,278.05 has been expended on the Eastern Division, and \$530,491.77 on the Western Division, and \$29,028.49 charged for discounts on bonds issued, and premium on stocks of old com-

panies, the balance being chargeable to the original construction of the old roads. Of the amount charged to the Western Division, the sum of \$478,316.06 was furnished by the Pennsylvania Railroad Company, and is included in the outstanding liabilities of the company.

There is also an apparent increase of \$3,175.95 in the value of the materials unapplied at the close of the half year; \$20,612.37 in the bills and accounts receivable, which are considered good assets. Of the whole amount of these assets, \$16,974.50 is owing by the U. S. Post Office Department, and \$21,115.00 by the Joliet and Chicago Railroad Company.

The uncollected revenue at stations is increased \$2,618.18; the balances due from other companies but \$29.57, and the money remitted by the agents in transitu, \$367.86.

The assets in hands of the Chief Engineer and others, are \$649,135.77, of which amount \$623,120.81 belong to the account of the Chief Engineer. The assets in his hands have been reduced \$20,314.71, being the amount of sundry liabilities of the company paid by him during the past six months. In addition to this amount the company are indebted to him for 50 per cent. of the gross earnings of the road between Plymouth and Chicago from December, 1858, to June, 1859, both inclusive, set apart by the Board for the completion of the road. This appropriation for the months named above, amounts to \$42,915.81.

The capital stock of the company has increased but \$2,883.17 since Jan. 1st; but there is shown a much larger increase in bond capital, there having been issued during the half year \$288,145.00, which is distributed as follows, viz:

Increase of Ohio and Pennsylvania R. R.	.....
Co.'s Bridge bonds	.....	\$17,000
Increase of Mortgage Construction bonds	.....	132,000
Increase of Sinking Fund bond	.....	89,145

Total	\$288,145
-------	-------	-----------

The Floating Debt of the company amounted to \$1,889,561.56, being an apparent increase of \$348,265.66, excluding the expenditures in December, 1858, and June, 1859, they being incurred in the current management of the road, and paid in subsequent months on demand. There has, however, been a decrease in this class of the company's liabilities, as the account of the Pennsylvania Railroad Company, having accrued prior to January, although not rendered till subsequently, should be treated as belonging to the debt of last year; deducting, therefore, the apparent increase from this account, viz: \$483,731.02, a decrease of \$135,465.36 will be shown, of which \$106,013.84 is composed of retired acceptances of the company.

At the close of 1858 the overdue acceptances amounted to \$356,218.78, and to fall due in 1859, \$427,114.43, making a total of \$783,333.21. These amounts at the close of June stood as follows, viz: Overdue, \$336,169.20; to become due thereafter to the end of the year, \$282,534.89; total, \$618,704.09; making a difference by extensions and payments of \$164,629.12.

If to the amount of the acceptances overdue and the balances of the bills payable accounts of the old companies, is added the warrants payable, accounts payable, and coupons past due payable in cash, less the amount due Penn, R. R. Co. for iron, &c., and to Michigan Southern and Northern Indiana R. R. Co., for shortage in earnings of special train in 1857-8, the result will show \$863,028.56 as the floating debt overdue at the close of the half year.

The capital stock of the company, as shown by the general exhibit of the Auditor, amounted to \$6,263,438.33. Amount of mortgage bonds on road and real estate issued to that date, \$2,267,910.00. Floating debt of all classes, includ'g \$35,595 due on coupons unpaid and to be funded, 1,925,156.56. Current expenses for June to be paid in June, 118,001.24. Amount..... \$17,689,506.13

The total cost of the road and equipment to December 31st, 1858, as shown by the last annual report, was	14,631,110.15
Which has been increased since that date as follows, viz: Unadjusted accounts chargeable to cost of road prior to August 1st, 1858—	
Ohio and Penn. R. R. Co. \$1,618 12	
Ohio and Indiana R. R. Co. 7,806 14	
Ft. Wayne & Chicago R.R. 982 44	
	10,406 70
Construction expenditures during the six months ending June 30, 1859, on eastern division	19,278 06
On western division	530,494 77
Discount on bridge bonds of O. & P. R. R. Co.	549,772 82
Do. Mort. Con. bonds of P., Ft. W. & C. R. R. Co.	4,285 00
Premium on Ft. W. & C. R. R. Co. stock	24,695 00
	48 49
Total cost of road and equipment to June 30, 1859	\$15,220,818 16
Cost of real estate owned by the company, exclusive of depot grounds and roadway	964,807 08
Stock and bonds of other companies	91,100 00
Fuel on road and materials on hand at the company's shops	100,881 37
Cash and bills receivable—good....	182,896 88
Mortgage bonds and notes in the hands of the Chief Engineer and other agents	649,135 77
Amounts receivable, bad and doubtful, including \$69,581 98 deficit in account of former Treasurer of the Ohio & Penn. R. R. Co....	121,791 71
Coupons due in New York July 1st, 1859, paid in June,	980 00
Balance to debit of income account.	287,595 16
Total	\$17,569,506 13

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Adapted to every branch of business where a correct and durable Scale is required.

SCALES FOR RAILROADS,

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Notice to Contractors.

OFFICE OF THE LITTLE ROCK AND FORT SMITH BRANCH
OF THE CAIRO AND FULTON R. R. CO.

Van Buren, Ark. Sept. 10, 1859.

SEALED PROPOSALS for the Graduation of the First Division of twenty miles eastward from Van Buren, will be received at this office, until THURSDAY NOON, DECEMBER 1st 1859. The work is divided into two sections of about one mile each, and proposals for either a part, or the whole of the Division may be made; but no bid for less than one section will be considered. Blank forms of Proposals will be furnished on application at this office, by mail or otherwise. Estimates of work done will be made on the first day of every alternate month, and payments made on the first day of the month following; and fifteen per cent. of all estimates will be retained until the completion of the contract. Contractors desiring other terms of payment may bid accordingly as the above terms are not positively settled.

The Company having a large amount of the finest lands in Western Ark. near, will give preference to those requiring the least proportion of money, and the largest proportion of stock and lands. The Company reserves the right to reject any and all bids at its option.

Plans, profiles and specifications, may be seen, and all desired information obtained, on application at the Engineer's Office in Van Buren.

2m40 JESSE TURNER, Preident.

Notice to Contractors.

OFFICE OF THE LITTLE ROCK AND FORT SMITH BRANCH
OF THE CAIRO AND FULTON R. R. CO.

Van Buren, Ark. Sept. 10, 1859.

SEALED PROPOSALS for the M. S. of the First Division of twenty miles eastward from Van Buren, will be received at this office until THURSDAY NOON, DECEMBER 1st, 1859. No bid for less than the amount of Masonry upon any one section will be considered. Blank forms of Proposals will be furnished on application at this office, by mail or otherwise.

Contractors will state terms of payment, and proportions of money, stock and lands, and amount to be retained by the Company to secure the completion of the contract. The Company reserves the right to reject any and all bids at its option.

Plans and specifications may be seen, and all desired information obtained on application at the Engineer's Office in Van Buren.

2m40 JESSE TURNER, President.

FULTON FOUNDRY AND MACHINE WORKS,

P. F. GEISSE,

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STEAM ENGINES of every variety built to order. STEAM BOATS and STEAM TERRY BOATS contracted for in whole.

PUTNAM'S PATENT TURN-TABLES (a very superior and simple table) of all sizes built to order at very reasonable rates.

CAR WHEELS of a quality superior to any ever yet made. I am now manufacturing from the best material and annealed by a process patented by me in February, 1859, which renders them almost equal to wrought iron. Car Wheels, Steam Engines and all kinds of machinery furnished at as low, if not lower rates than can be found elsewhere.

Rights to manufacture Car Wheels under P. F. GEISSE's annealing process may be obtained from the Patentee at Wellsville, or from T. Calverton, No. 8 Fourth Avenue, N. Y.

Testimonials from the Superintendents and Master Mechanics of the Cleveland and Pittsburg, Little Miami, and St. Louis and Indiana Railroads, as to the superior quality and durability of these Wheels will be furnished on application.

ROUND OAK IRON WORKS,
STAFFORDSHIRE.

LORD WARD, Proprietor.

MANUFACTURE RAILS, BOILER PLATES, SHEETS, HOOPS and BARS of every variety.

Address RICHARD SMITH, Esq., Dudley.

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NORRIS & BROTHER, Agents.

RAILROAD IRON.

THE undersigned, Agents for leading Manufacturers in STAFFORDSHIRE and WALES, are prepared to contract for delivery on board ship at LIVERPOOL, or WALES port.

C. CONGREVE & SON,

13 CHURCH ST., N. Y.

RAILROAD IRON
AND COMMON BARS.

THE undersigned, sole Agents to Messrs. Guest & Co., the proprietors of the Dowlais Iron Works, near Cardiff, South Wales, are duly authorized to contract for the sale of their G. L. Railroad Iron, and Common Bars, on most advantageous terms.

R. & J. MAKIN, 70 Broad St.

RAILROAD IRON.

THE subscribers, Agents for the Manufacturers, are prepared to contract for the delivery of RAILROAD IRON at any port in the United States, or Canada, or at a shipping port in Wales.

WAINWRIGHT & TAPPAN,
Boston, June, 1859.

29 Central Wharf.

WINDOW, PICTURE AND CAR

GLASS.

F. HOPKINS & BROTHER,
IMPORTERS,
193 Pearl St., NEW YORK.

LACKAWANNA
IRON AND COAL COMPANY,
SCRANTON, LUZERNE CO., PA.

BY the completion of the DELAWARE, LACKAWANNA AND WESTERN RAILROAD, this Company are enabled to obtain the MAGNETIC ORES from the most celebrated mines in New Jersey, which are used in combination with their native ores, produce a quality of iron not surpassed.

These Works have been greatly enlarged the past year, and are therefore prepared to execute orders promptly for RAILROAD IRON of any pattern and weight, CAR AXLES, SPIKES and MERCHANT IRON. They have on hand patterns for THE RAILS of the following weights per hundred yard, viz.—25, 30, 36, 40, 45, 50, 60, 62, and 75 lbs.

Samples of RAILS and MERCHANT IRON may be seen at the office of the Company, 46 Exchange Place, NEW YORK.

Address J. H. SCRANTON, President.

Scranton, Pa.

or DAVID S. DODGE, Treasurer,
46 Exchange Place,
NEW YORK.

RAILROAD IRON.

CONTRACTS for RAILS, at a fixed price or on commission, delivered at an English port, or at a port in the United States, will be made by the undersigned.

THEODORE DEMON,
10 Wall St., near Broadway, N. Y.
500 tons T-Rails on hand, 54 to 57 lbs. per hundred yard.

RAILROAD IRON.

THE undersigned, agents for the manufacturers, are prepared to make CONTRACTS for RAILS delivered free on board at ports in England, or ship at ports in the United States.

M. K. JESUP & COMP'Y,
44 Exchange Place.

New York, 1st June, 1859.

A GENTLEMAN who has upwards of 20 years experience in conducting an extensive machine manufacturing business (as principal) writes a good hand and has a thorough knowledge of accounts and general business routine, wishes an engagement with some established concern where his services would command a fair compensation.

Satisfactory evidence of business capacity and integrity will be furnished.

Address S. box 903 Baltimore Post Office.

3m32

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HAVING leased the extensive Works of the CAMBRIA

IRON COMPANY, situated at JOHNSTOWN, Cambria Co., Penna., and purchased all their real estate, are now prepared to execute, at short notice, orders for RAILS of any required pattern or weight, on the most liberal terms.

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IRON MERCHANTS,

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IRON AND STEEL

IN ALL THEIR VARIETIES.

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CUT NAILS AND SPIKES, PIG IRON, &c.

Having the selling agency of a number of the Rolling Mills,

Furnaces and Forges in this State, orders for any description of IRON can be executed.

August 16, 1859.

RAILROAD IRON.

THE subscriber is prepared to enter into CONTRACTS FOR RAILS delivered at an English port or at a port in the United States.

JAMES TINKER,
102 Exchange Place,
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Eric Rails, 57 to 58 lbs. per yard, on hand in NEW YORK and NEW ORLEANS.

THE FARNLEY IRON CO.,

Near LEEDS, Yorkshire,

MANUFACTURERS OF
LOCOMOTIVE TIRES,
TIRE BARS,
BOILER PLATES, ETC.

The undersigned are prepared to execute orders for

TIRES,

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The undersigned, having been appointed Agents for Messrs. HOLCKOW & VAUGHAN, proprietors of the ESTON, MIDDLESBRO', and WITTON PARK IRON WORKS, YORKSHIRE, ENG., are prepared to contract for the sale of RAILROAD IRON of a superior quality and on the most advantageous terms.

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RAILROAD IRON.

The Crescent Manufacturing Company
WHEELING, VA.,

ARE now prepared to execute, at short notice, orders for Rails of any required pattern and weight, and to re-roll old rails, on the most liberal terms. Address

N. WILKINSON, Secy.,
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The undersigned, Agents for the Manufacturers, are prepared to contract to deliver, free on board at shipping ports in England, or at ports of discharge in the United States, RAILS OF SUPERIOR QUALITY, and of weight or pattern as may be required.

VOSE, LIVINGSTON & CO.,
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NEW YORK, Aug. 1, 1858.

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THE RENSSELAER IRON COMPANY,
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Offer Rails of their own manufacture deliverable as may be desired by purchasers.

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CEMENT COMPANY,
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WM. N. BEACH, President.
CHAS. E. LAWRENCE, Secy.

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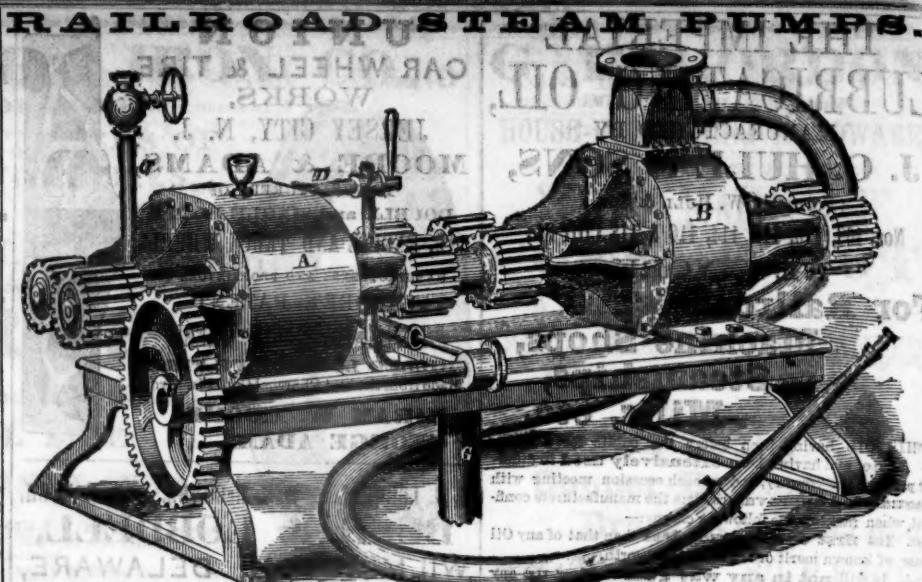
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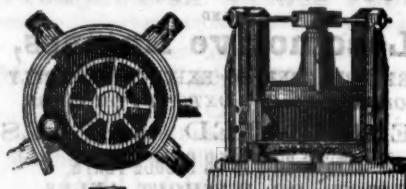
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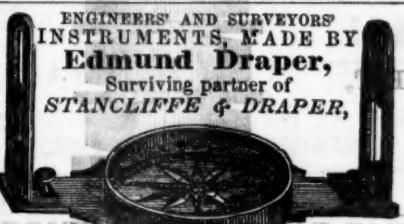
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